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| 10/829,111      | 04/20/2004  | Caph Chen            | 04145-URS           | 5183             |

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| EXAMINER |
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ZAMAN, FAISAL M

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| ART UNIT | PAPER NUMBER |
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2112

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                    |  |
|------------------------------|--------------------------------------|------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/829,111 | <b>Applicant(s)</b><br>CHEN ET AL. |  |
|                              | <b>Examiner</b><br>Faisal Zaman      | <b>Art Unit</b><br>2112            |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1 and 3** are rejected under 35 U.S.C. 103(a) as being unpatentable over Szabelski (U.S. Patent Publication No. 2004/0168001), in view of Senior et al. ("Senior") (U.S. Patent No. 6,898,654).

**Regarding Claim 1**, Szabelski discloses a USB hub (title, abstract), comprising:

An upstream interface port to be operated under the USB transmission control protocol for serving as a data-switching communication port of relevant devices (Page 1, paragraph 5);

A hub device comprised of a hub control unit, a packet-switching unit, a router, and a repeater; in which the repeater is employed to receive signals and retransmit the same to a designated device (Page 1, paragraph 6); the hub control unit ascertains the data transmission speed thereof for controlling the repeater to transmit data to the router or the packet-switching unit (Figure 1, item 14, Page 2, paragraph 25, "hub controller"); the packet-switching unit is a device for switching a high-speed data stream to a full/low speed data stream (Figure 1, item 20, Page 2, paragraph 25, "transaction translator"); the router is employed to distribute and transmit a data stream to each

Art Unit: 2112

device connected with the downstream interface port (Figure 1, item 20, Page 2, paragraph 25, "transaction translator"), or distribute and transmit an upstream data stream from the downstream interface port to the repeater or the packet-switching unit; and

A downstream interface port to be operated also under USB transmission control protocol, being provided with a plurality of interface ports to serve as a data-switching communication port of relevant devices (Page 1, paragraph 5).

Szabelski does not, however, disclose wherein the hub control unit detects the connection state of devices to be connected with the upstream and a downstream interface port.

In the same field of endeavor (e.g. devices transferring data on a Universal Serial Bus), Senior discloses wherein the hub control unit detects the connection state of devices to be connected with the upstream and a downstream interface port (Senior, Column 2, lines 1-3).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have incorporated Senior's teachings of a hub in which devices transfer data over USB to the teachings of Szabelski, for the purpose of having a plurality of peripherals communicate with a computer system via a bus (see Senior, Column 1, lines 6-8). It would obvious to one of ordinary skill in the art to combine the two so that the hub control unit of Szabelski would have more control of the devices attached to the hub.

Art Unit: 2112

**Regarding Claim 3**, Szabelski discloses a USB hub with built-in storage device (title, abstract), comprising:

An upstream interface port to be operated under the USB transmission control protocol for serving as a data-switching communication port of relevant devices (Page 1, paragraph 5);

A hub device comprised of a hub control unit, a packet-switching unit, a router, a built-in storage device, and a repeater; in which the repeater is employed to receive signals and retransmit the same to a designated device (Page 1, paragraph 6); the hub control unit ascertains the data transmission speed thereof for controlling the repeater to transmit data to the router or the packet-switching unit (Figure 1, item 14, Page 2, paragraph 25, "hub controller"); the packet-switching unit is a device for switching a high-speed data stream to a full/low speed data stream (Figure 1, item 20, Page 2, paragraph 25, "transaction translator"); the router is employed to distribute and transmit a data stream to each device connected with the downstream interface port (Figure 1, item 20, Page 2, paragraph 25, "transaction translator"), or distribute and transmit an upstream data stream from the downstream interface port to the repeater or the packet-switching unit; the built-in storage device is employed to memorize downstream data transmitted to the downstream interface port (Figure 1, item 30, Page 2, paragraph 28); and

A downstream interface port to be operated also under USB transmission control protocol, being provided with a plurality of interface ports to serve as a data-switching communication port of relevant devices (Page 1, paragraph 5).

Art Unit: 2112

Szabelski does not, however, disclose wherein the hub control unit detects the connection state of devices to be connected with the upstream and a downstream interface port.

In the same field of endeavor, Senior discloses wherein the hub control unit detects the connection state of devices to be connected with the upstream and a downstream interface port (Senior, Column 2, lines 1-3).

The motivation that was utilized in the combination of Claim 1, super, applies equally as well to Claim 3.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 2 and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Szabelski and Senior as applied to Claims 1 and 3 above, and in further view of Kubo et al. ("Kubo") (U.S. Patent No. 6,671,814) and Koyama et al. ("Koyama") (U.S. Patent No. 6,744,698).

Kubo discloses the following limitations:

Wherein the hub device is provided with an external power supply unit (Kubo, abstract, Figure 3, item S2, Column 2, lines 1-9); each interface port of the downstream

Art Unit: 2112

interface port possesses an on/off switch of power supply (Kubo, Figure 1, item 3, Column 4, lines 1-2);

Szabelski discloses wherein the hub control unit is assigned to manage the device connected with each interface port of the downstream interface port (Szabelski, Page 2, paragraph 25),

However, Koyama discloses the following limitation, which neither Kubo nor Szabelski and Senior disclose:

Wherein a control unit detects the electrical load thereof, and controls the on/off switch of power supply to either connect with an internal power source or connect with the external power supply unit (Koyama, Column 1, lines 13-37, since it is said that the method disclosed in Koyama is often used with portable electronic devices, it would be obvious to one of ordinary skill in the art that once the switch in Koyama is turned off, power would be received from an external power supply rather than from the battery).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Kubo's teachings of a USB interface capable of turning off the power supply from the host thereto without the need of withdrawing the USB connector when stopping its operation, and Koyama's teachings of an electronic device that operates with a battery as the power source to the teachings of Szabelski as modified, for the purpose of reducing power consumption of a host which supplies power (see Kubo, Column 1, lines 6-10). It would be obvious to one of ordinary skill in the art to combine the inventions discussed in order to have an efficient

Art Unit: 2112

power supply system in each of the inventions (see Koyama Column 2 lines 5-10, and Senior Column 1 lines 52-57).

***Prior Art of Record***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chen et al. (U.S. Patent Publication No. 2005/0120157) discloses a USB smart switch with packet re-ordering for interleaving among multiple flash-memory endpoints aggregated as a single virtual USB endpoint. Huang (U.S. Patent No. 6,722,917) discloses a USB hub to connect a plurality of USB devices together.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Faisal Zaman whose telephone number is 571-272-6459. The examiner can normally be reached on Monday thru Friday, 9 am - 5:30 pm.

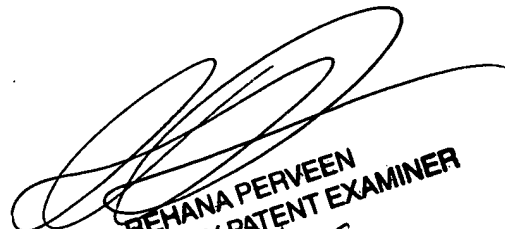
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on 571-272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2112

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

fmz

  
REHANA PERVEEN  
SUPERVISORY PATENT EXAMINER  
10/31/03